



孕龍科技股份有限公司
Zeroplus Technology Co., Ltd.

SPECIFICATION

MODEL: B10006-LAP-DS18B20-M

PART NO: _____

VERSION: V1.00

Approver		Check	Design
GM	PM		

Customer Confirm

*Please fax the file to Zeroplus Technology after signing.

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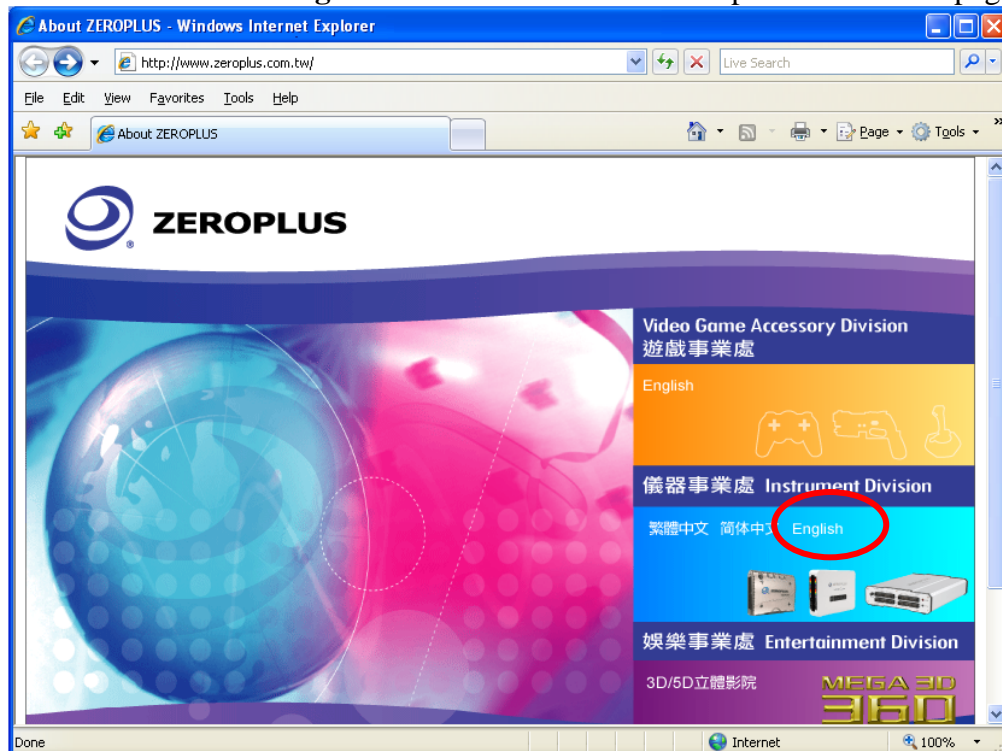
1 Software Download

Please download the software as the following steps:

Remark: We won't have additional notice for you, when there is any modification of the module specification. If there is some unconformity caused by the module version upgrade, users should take the module software as the standard.

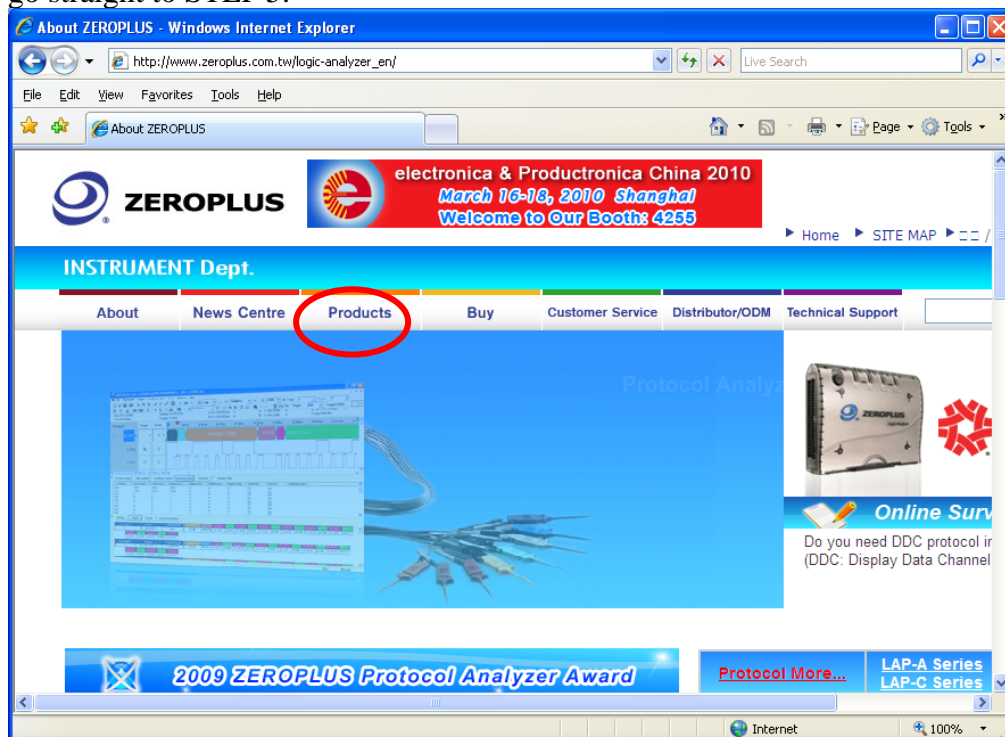
STEP 1. Visit the website of ZeroPlus: <http://www.zeroplus.com.tw>.

STEP 2. Click **English** in the Instrument Division part on the Homepage.

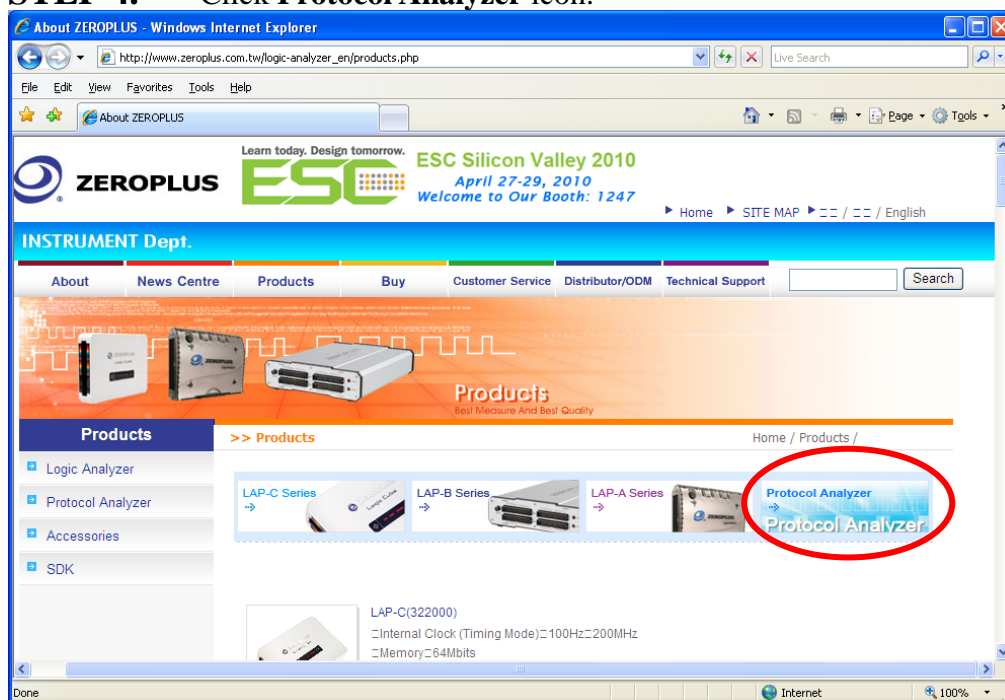




STEP 3. Click **Products** menu or select **Protocol Analyzer** item from its pull-down menu to go straight to STEP 5.

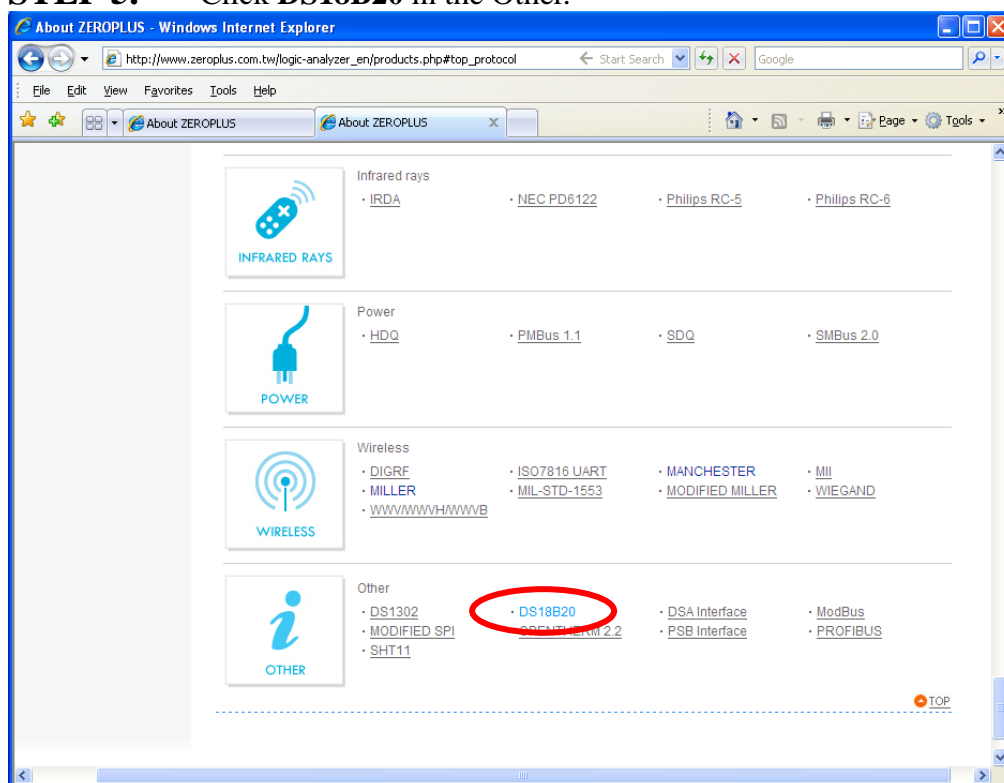


STEP 4. Click **Protocol Analyzer** icon.

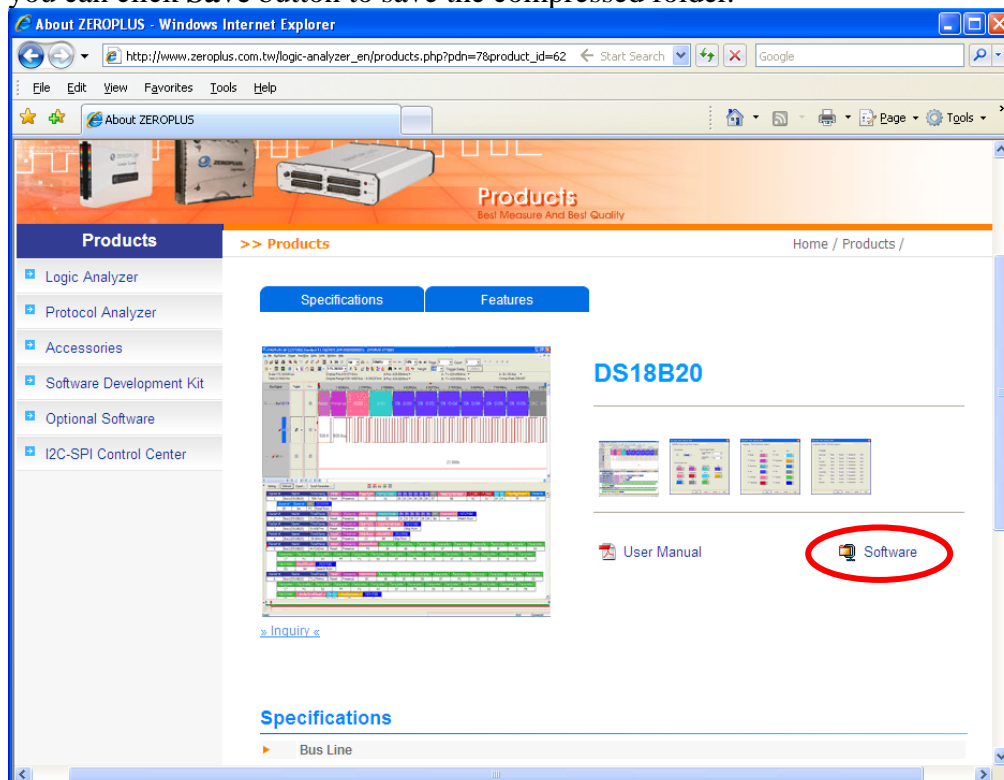




STEP 5. Click **DS18B20** in the Other.



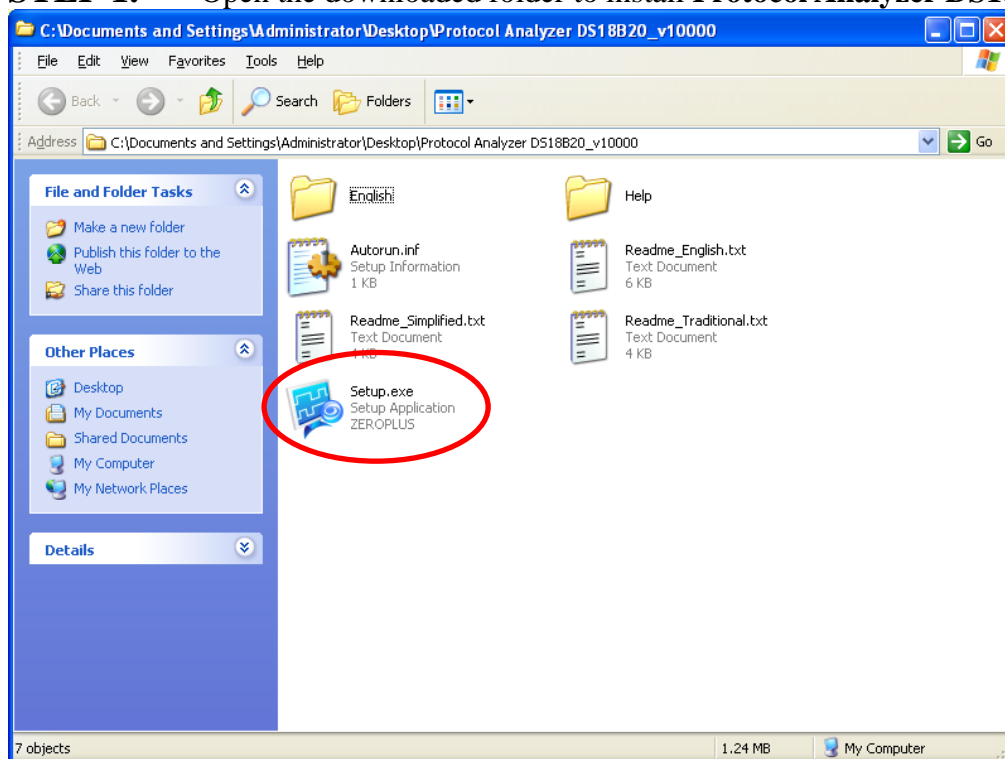
STEP 6. Click **Software** in the Products page. When the File Download dialog box appears, you can click **Save** button to save the compressed folder.



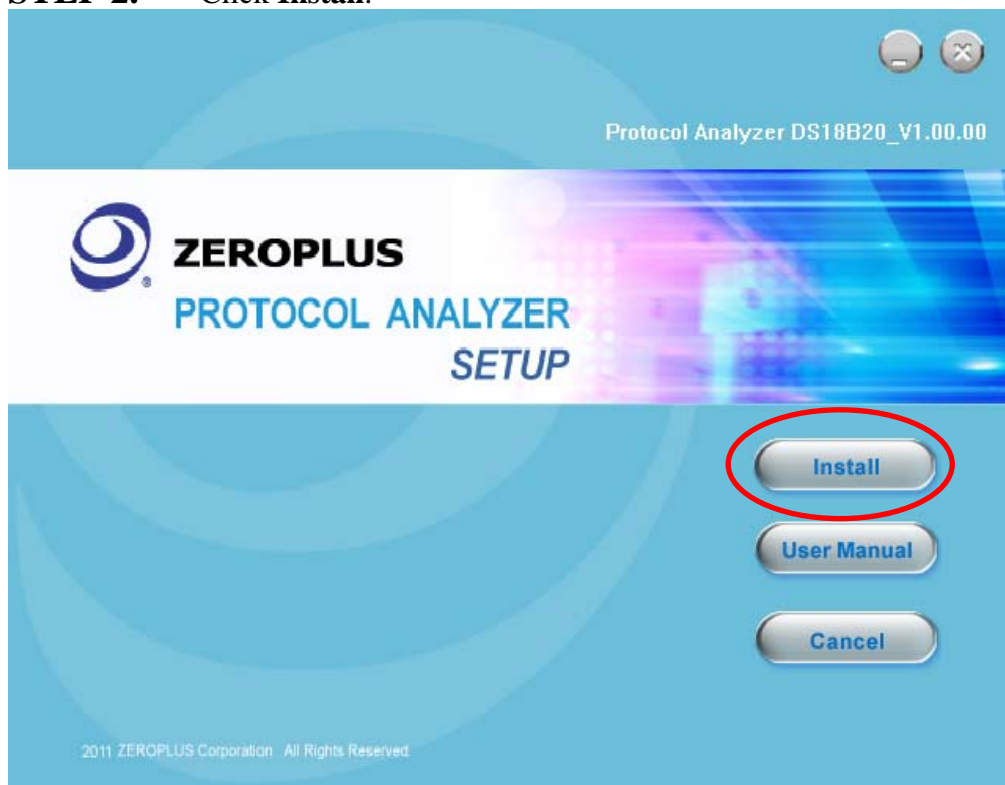


2 Software Installation

STEP 1. Open the downloaded folder to install **Protocol Analyzer DS18B20**.

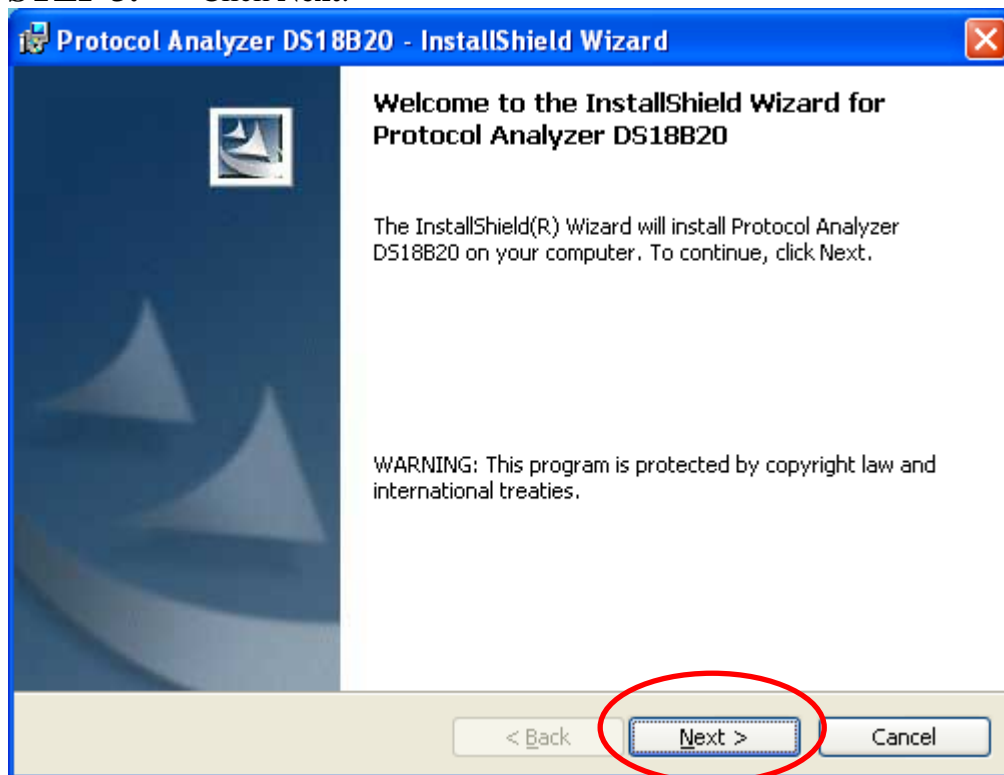


STEP 2. Click **Install**.

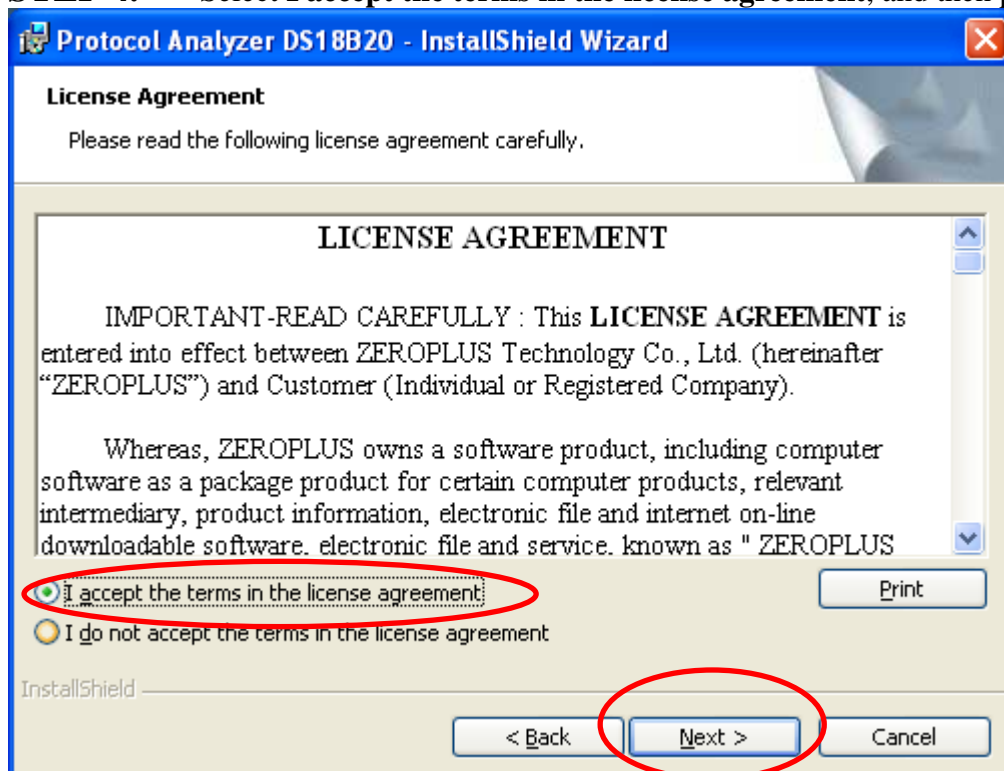




STEP 3. Click Next.



STEP 4. Select **I accept the terms in the license agreement**, and then press **Next**.





STEP 5. Fill in users' information in the below dialog box and click **Next**.

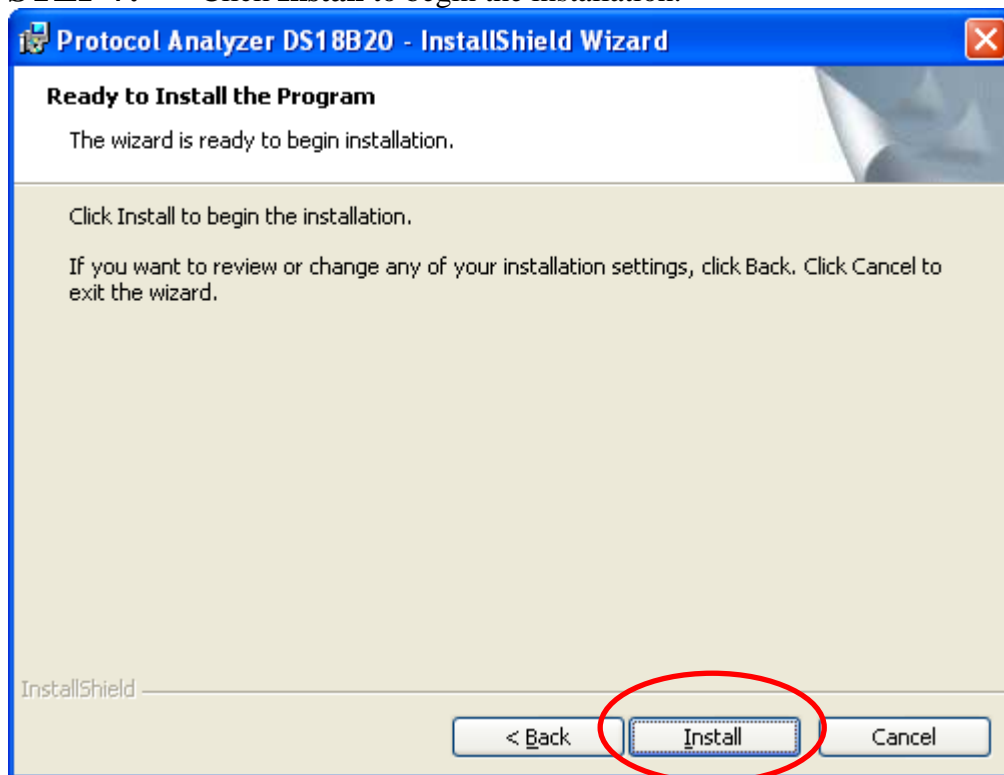
The dialog box is titled "Protocol Analyzer DS18B20 - InstallShield Wizard". It has a "Customer Information" section with the instruction "Please enter your information." Below this, there are two text input fields: "User Name:" with "Microsoft" entered, and "Organization:" with "User" entered. There are two radio button options: "Anyone who uses this computer (all users)" which is selected, and "Only for me (Microsoft)". At the bottom, there are three buttons: "< Back", "Next >" (which is circled in red), and "Cancel".

STEP 6. Select **Complete** and then click **Next**.

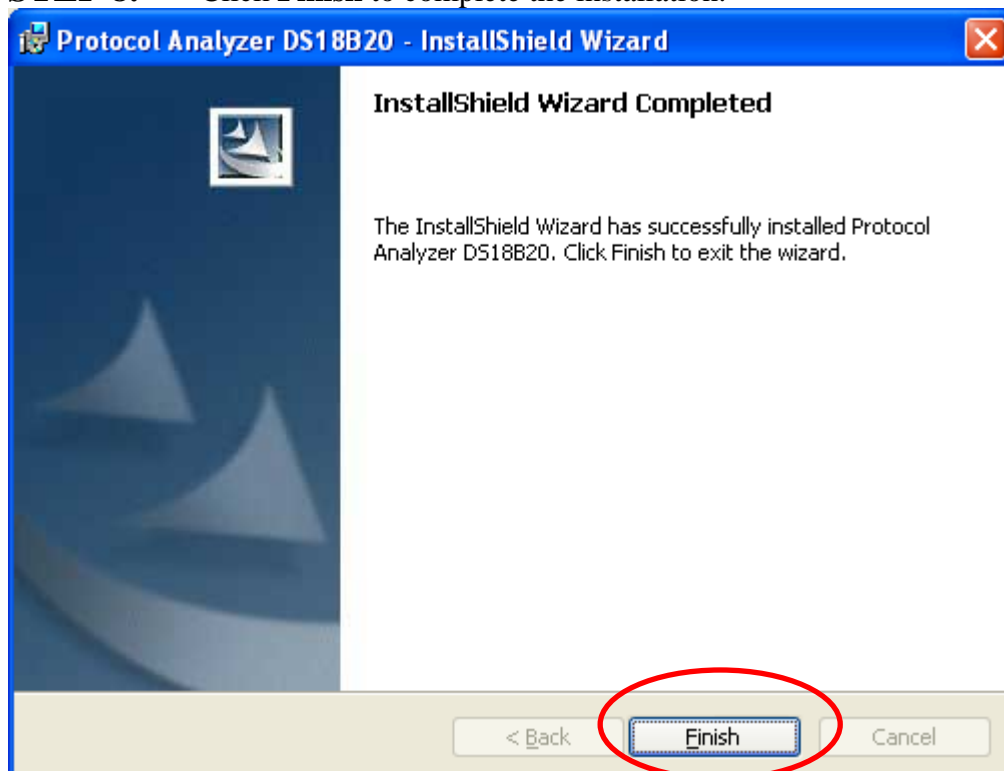
The dialog box is titled "Protocol Analyzer DS18B20 - InstallShield Wizard". It has a "Setup Type" section with the instruction "Choose the setup type that best suits your needs." Below this, there are two radio button options: "Complete" which is selected, and "Custom". The "Complete" option has a description: "All program features will be installed. (Requires the most disk space.)". The "Custom" option has a description: "Choose which program features you want installed and where they will be installed. Recommended for advanced users." At the bottom, there are three buttons: "< Back", "Next >" (which is circled in red), and "Cancel".



STEP 7. Click **Install** to begin the installation.



STEP 8. Click **Finish** to complete the installation.





3 User Interface

In the configuration, please refer to below images to select options of **DS18B20** module.

DS18B20 Configuration Dialog Box

Pin Assignment

DS18B20 needs one channel to decode signals.

Protocol Analyzer Property

Temperature Bit Width: Set the Bit Width to 9, 10, 11 or 12, and the default is 12.

Temperature Format: Set the Format to Value, Celsius or Fahrenheit, and the default is Value.

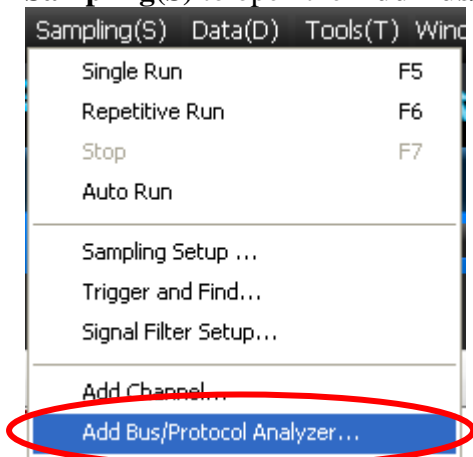
Protocol Analyzer Format

The Color of each Item can be varied as the users' requirements. The Items (Family Code, SN, Command, Temperature, TH/TL, Configuration, Reserve, CRC and Parameter) can be set as Binary, Decimal, Hexadecimal, ASCII or Default. And the Data Format of the Items (Family Code, SN, Command, Temperature, TH/TL, Configuration, Reserve, CRC and Parameter) in the Waveform Display Area and Packet List is controlled by the Protocol Analyzer. The default Data Format is controlled by the main program and the Data Format of the Items (Family Code, SN, Command, Temperature, TH/TL, Configuration, Reserve, CRC and Parameter) is the Default.

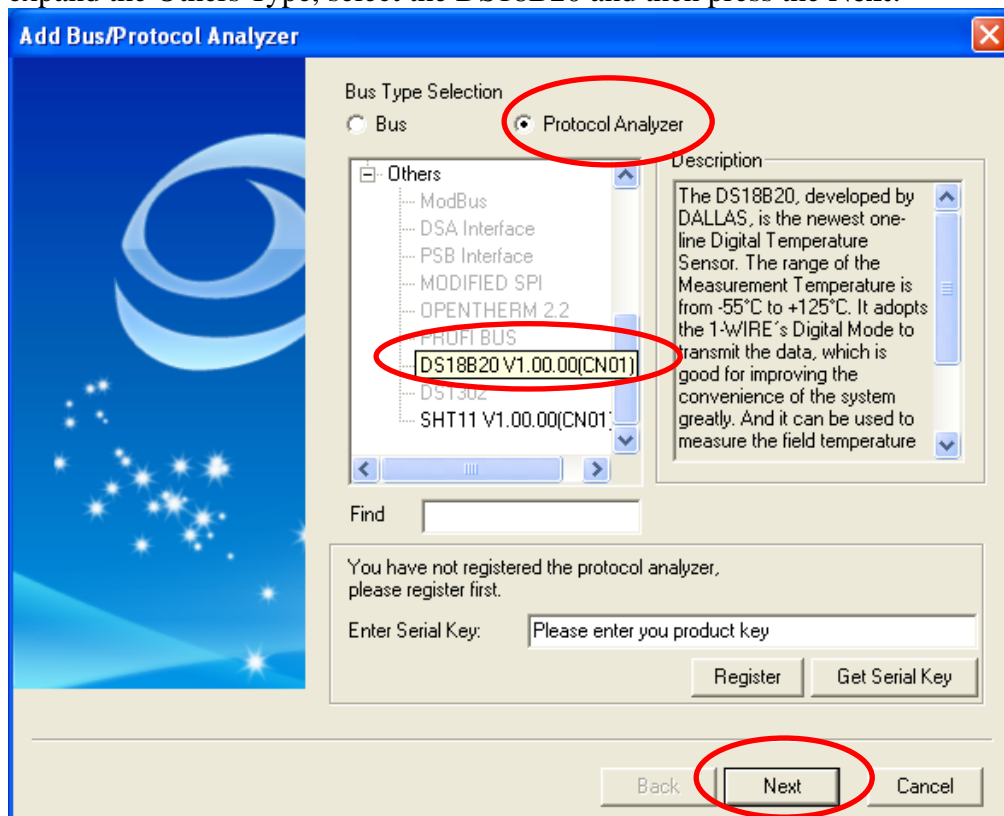


4 Operating Instructions

STEP 1. Select the **Add Bus/Protocol Analyzer** item on the pull-down menu of the **Sampling(S)** to open the **Add Bus/Protocol Analyzer** dialog box.

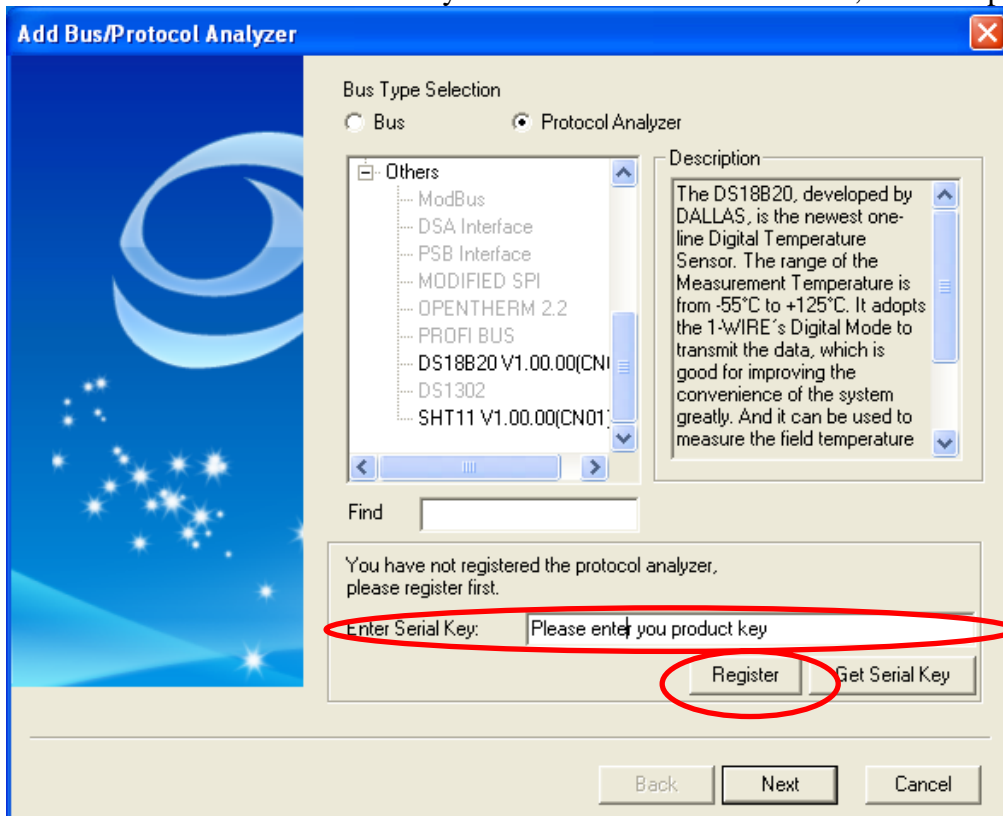


STEP 2. Select the Protocol Analyzer item in the Add Bus/Protocol Analyzer dialog box, expand the Others Type, select the DS18B20 and then press the **Next**.

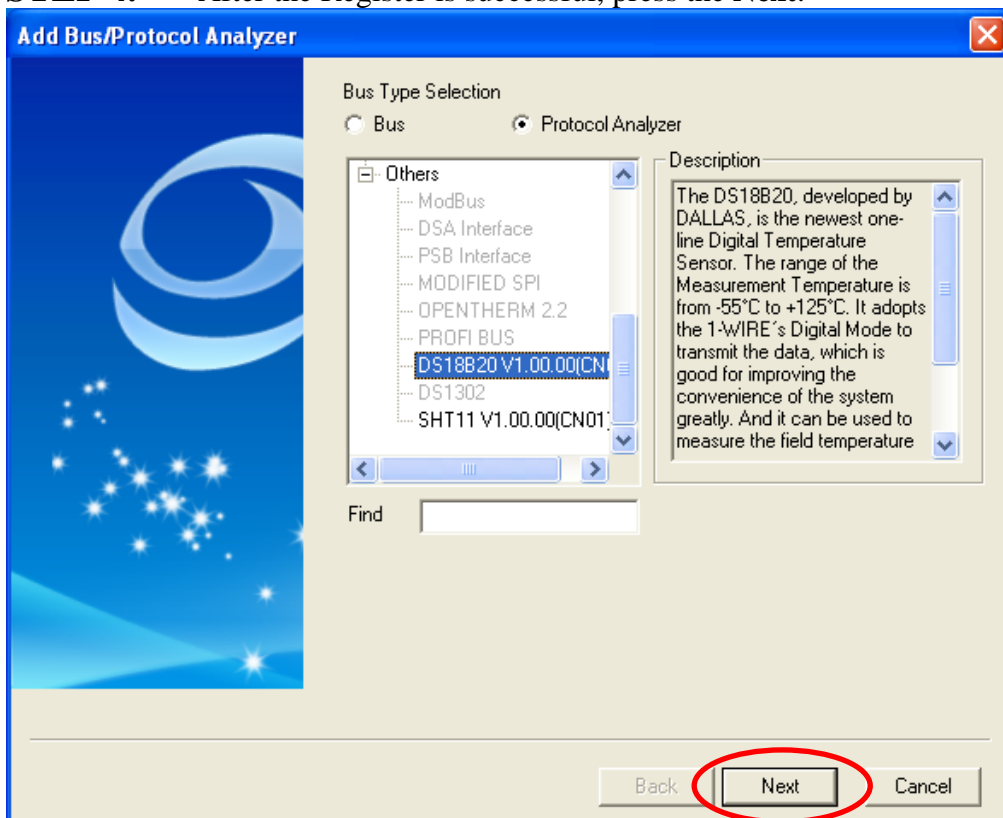




STEP 3. Enter the Serial Key of DS18B20 under this Model, and then press the **Register**.

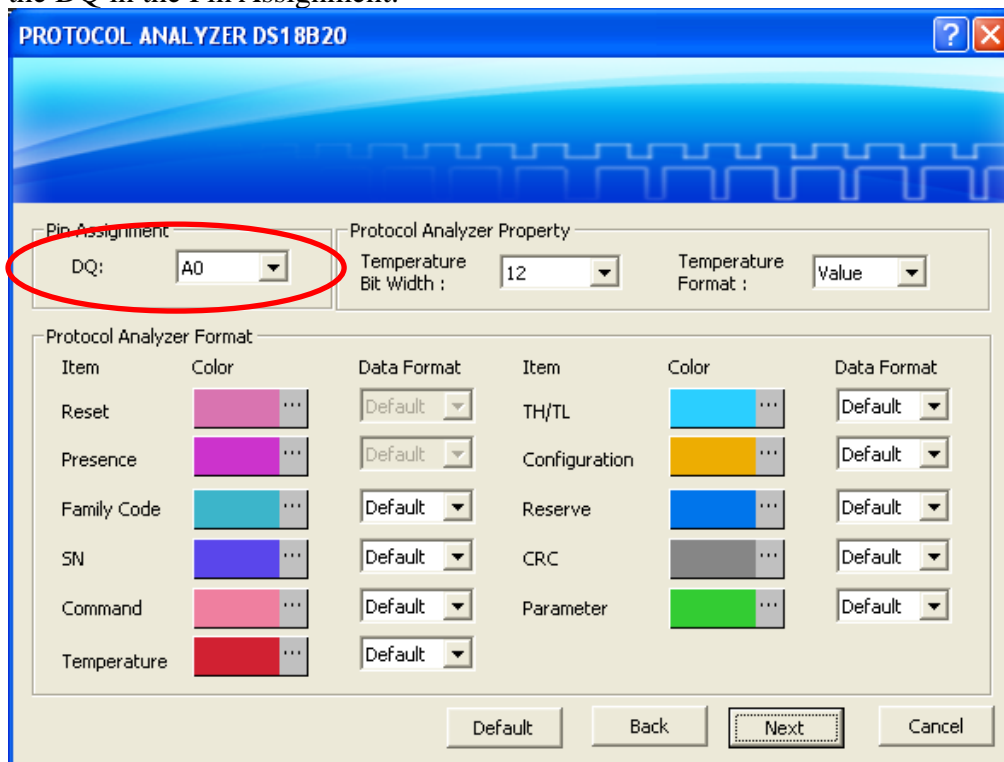


STEP 4. After the Register is successful, press the **Next**.

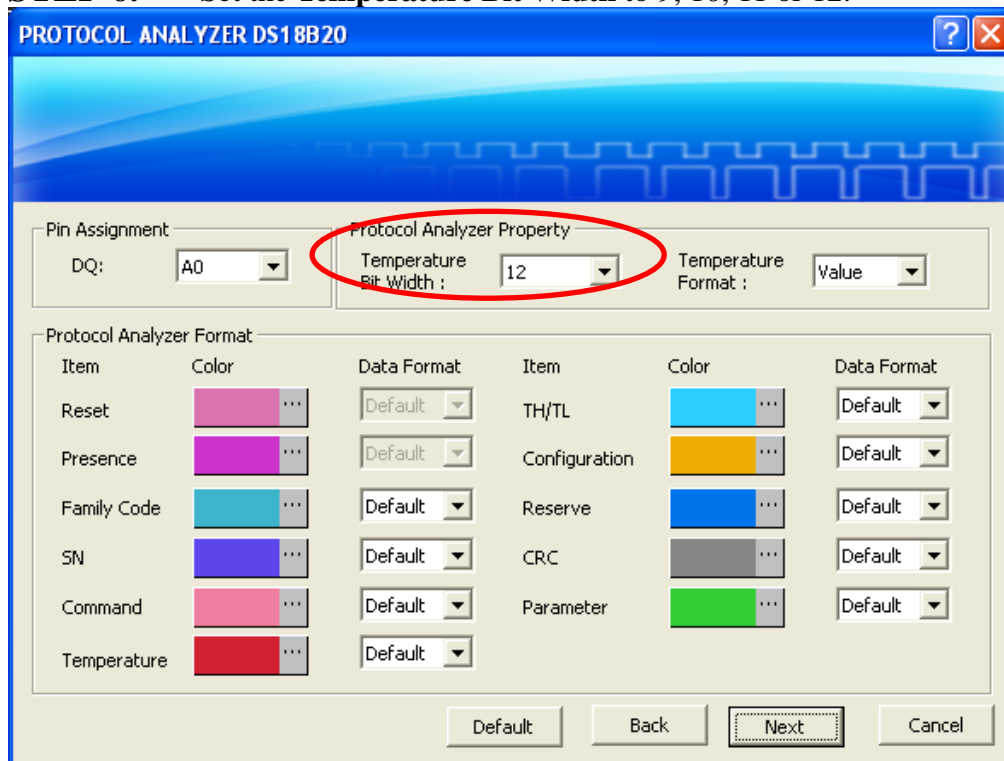




STEP 5. Open the PROTOCOL ANALYZER DS18B20 dialog box, and set the channel for the DQ in the Pin Assignment.



STEP 6. Set the Temperature Bit Width to 9, 10, 11 or 12.





STEP 7. Set the **Temperature Format** to Value, Celsius or Fahrenheit.

PROTOCOL ANALYZER DS18B20

Pin Assignment: DQ: A0

Protocol Analyzer Property: Temperature Bit Width: 12, Temperature Format: Value

Protocol Analyzer Format:

Item	Color	Data Format	Item	Color	Data Format
Reset	[Pink]	Default	TH/TL	[Light Blue]	Default
Presence	[Purple]	Default	Configuration	[Yellow]	Default
Family Code	[Teal]	Default	Reserve	[Blue]	Default
SN	[Dark Blue]	Default	CRC	[Grey]	Default
Command	[Pink]	Default	Parameter	[Green]	Default
Temperature	[Red]	Default			

Buttons: Default, Back, Next, Cancel

STEP 8. Set the Color of each Item and the Data Format of the Items (Family Code, SN, Command, Temperature, TH/TL, Configuration, Reserve, CRC and Parameter).

PROTOCOL ANALYZER DS18B20

Pin Assignment: DQ: A0

Protocol Analyzer Property: Temperature Bit Width: 12, Temperature Format: Value

Protocol Analyzer Format:

Item	Color	Data Format	Item	Color	Data Format
Reset	[Pink]	Default	TH/TL	[Light Blue]	Default
Presence	[Purple]	Default	Configuration	[Yellow]	Default
Family Code	[Teal]	Default	Reserve	[Blue]	Default
SN	[Dark Blue]	Default	CRC	[Grey]	Default
Command	[Pink]	Default	Parameter	[Green]	Default
Temperature	[Red]	Default			

Buttons: Default, Back, Next, Cancel



STEP 9. Press the **Next** to finish all settings.

PROTOCOL ANALYZER DS18B20

Pin Assignment: DQ: A0

Protocol Analyzer Property: Temperature Bit Width: 12, Temperature Format: Value

Protocol Analyzer Format:

Item	Color	Data Format	Item	Color	Data Format
Reset		Default	TH/TL		Default
Presence		Default	Configuration		Default
Family Code		Default	Reserve		Default
SN		Default	CRC		Default
Command		Default	Parameter		Default
Temperature		Default			

Buttons: Default, Back, Next (circled in red), Cancel

STEP 10. Please enter the Bus Name, select **Yes, please delete** or **No, please reserve** and then press **Finish**.

Add Bus/Protocol Analyzer

Please input the Bus name: BUS

Do you want to delete the other Buses and channels in the software?

☐ Yes, please delete

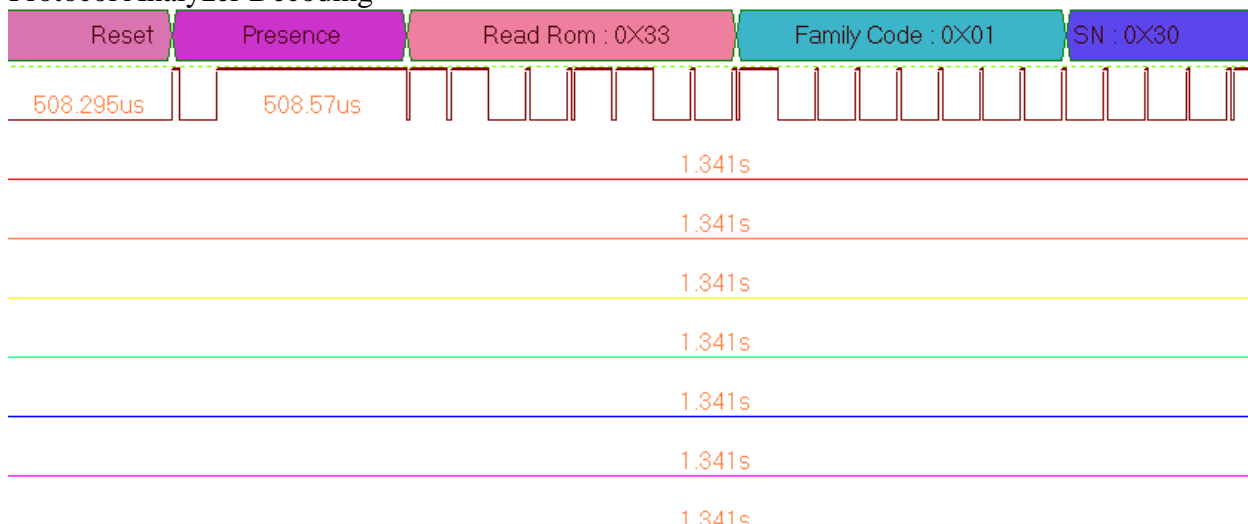
☒ No, please reserve

Buttons: Back, Finish (circled in red), Cancel



STEP 11. Following pictures show the completion of the protocol analyzer decoding and packet list. The Compression is activated. And the trigger condition is set as Either Edge, the memory depth is 1M; the sampling frequency is 200MHz (the sampling frequency should be more than four times higher than the signal to be tested).

Protocol Analyzer Decoding



Packet List

Navigator Packet List Statistics Memory Analyzer													
Setting... Refresh Export... Synch. Parameter...													
IDB MCR SCR SKR ALB													
Packet #	Name	TimeStamp	Reset	Presence	Read Rom	Family Code	SN	SN	SN	SN	SN	CRC	Read Scratchpad
1	Bus1(DS18B20)	0ms	Reset	Presence	33	01	30	32	34	36	38	E7	BE
	T_Msb	TH	TL	Configuration	Reserve	Reserve	Reserve	CRC	DESCRIBE				
	01	19	14	7F	39	39	BA	FC	Read Rom				
Packet #	Name	TimeStamp	Reset	Presence	Match Rom	Family Code	SN	SN	SN	SN	SN	CRC	Convert T
2	Bus1(DS18B20)	20.5331ms	Reset	Presence	55	02	31	33	35	37	39	BA	44
													Match Rom
Packet #	Name	TimeStamp	Reset	Presence	Skip Rom	Copy Scratchpad	DESCRIBE						
3	Bus1(DS18B20)	33.0822ms	Reset	Presence	CC	48	Skip Rom						
Packet #	Name	TimeStamp	Reset	Presence	Skip Rom	Parameter	DESCRIBE						
4	Bus1(DS18B20)	38.5345ms	Reset	Presence	CC	E2	FORMAT ERROR						
Packet #	Name	TimeStamp	Reset	Presence	Search Rom	Parameter	Parameter	Parameter	Parameter	Parameter	Parameter	Parameter	Parameter
5	Bus1(DS18B20)	43.9869ms	Reset	Presence	F0	38	00	00	07	F0	03		
	Parameter	Parameter	Parameter	Parameter	Parameter	Parameter	Parameter	Parameter	Parameter	Parameter	Parameter	Parameter	Parameter
	3F	F0	03	C7	F1	03	FF	F1	03	07	FE		
	Parameter	Parameter	Parameter	Parameter	Parameter	Parameter	Parameter	Read Power	DESCRIBE				